



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,403	02/07/2005	T.V.L.N Sivakumar	885A.0004.U1(US)	4450
29683 7590 10/25/2007 HARRINGTON & SMITH, PC 4 RESEARCH DRIVE SHELTON, CT 06484-6212			EXAMINER SKRIPNIKOV, ALEX	
			ART UNIT 4183	PAPER NUMBER
			MAIL DATE 10/25/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/500,403

Applicant(s)

SIVAKUMAR ET AL.

Examiner

Alex Skripnikov

Art Unit

4183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02/07/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by **Perkins et al. (QoS for AODV)** “Quality of Service for Ad hoc On-Demand Distance Vector Routing”, Internet Draft IETF, 14 July 2000.

Perkins et al. (QoS for AODV) discloses a reserving a communication band on a route by seeking a communication route from a source node to a destination node through intermediate nodes by use of an AODV algorithm in a mobile ad-hoc network (Perkins et al. (QoS for AODV); Abstract, page i, lines 1-3; Introduction, page 1, lines 1-7); storing information on communication bandwidth (available bandwidth) of a link route connecting each pair of mutually neighboring intermediate nodes on the communication route (each node forwarding RREP compares the Bandwidth field in the RREP and its own link capacity and record minimum in the route table entry for the corresponding destination (Perkins et al.(QoS for AODV); paragraph 4, page 4)); method of collecting (forwarding RREP, comparing the bandwidth field in the RREP and its own link capacity, maintaining the minimum of two (Perkins et al. (QoS for AODV); page 4, 4th paragraph, lines 3-6)) information on available communication bandwidth (available

Art Unit: 4183

minimum bandwidth (Perkins et al. (QoS for AODV); page 4, 4th paragraph, lines 6-9)) of the communication route and transmitting it to the source node, when a route reply is made from the destination node on the communication route toward the source node (When the destination generates a RREP in response to a RREQ (Perkins et al. (QoS for AODV); page 4, 4th paragraph, lines 1-3).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

Art Unit: 4183

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Perkins et al. (QoS for AODV)** "Quality of Service for Ad hoc On-Demand Distance Vector Routing", Internet Draft IETF, 14 July 2000 in view of **Perkins et al. (AODV)** "Ad Hoc On-Demand Distance Vector (AODV) Routing", Internet Draft IETF, 10 March 2000.

Perkins et al. (QoS for AODV) discloses reserving a communication band on a route by seeking a communication route, storing information on communication bandwidth and collecting information on available communication bandwidth as mentioned above. In addition to Perkins et al. (QoS for AODV) also teaches that when a route selection request is made from the source node or another source node to the intermediate node (Perkins et al.(QoS for AODV); Introduction, page 1, lines 2-4), with a bandwidth being designated (Minimum Bandwidth Extension (Perkins et al. (QoS for AODV); page 4, 2nd paragraph)), and when the available communication bandwidth (link capacity) of the communication route is larger than the designated bandwidth (Perkins et al. (QoS for AODV); page 4, 3rd paragraph)) the node continues processing the RREQ as specified in Perkins et al. (AODV) "Ad Hoc On-Demand Distance Vector

Art Unit: 4183

(AODV) Routing”, Internet Draft IETF, 10 March 2000. In addition to Perkins et al. (QoS for AODV) also teaches that each intermediate node on the communication route updates the communication bandwidth of the link route as much as the designated bandwidth (each node forwarding RREP compares the Bandwidth field in the RREP and its own link capacity and maintain minimum in the route table entry for the corresponding destination (Perkins et al. (QoS for AODV); page 4, 4th paragraph, lines 3-7)), when the confirmation reply (RREQ) has reached the destination node (When the destination generates a RREP in response to a RREQ (Perkins et al. (QoS for AODV); page 4, 4th paragraph, lines 1-3).

Perkins et al. (QoS for AODV) fails to teach the intermediate node makes a reply for permitting transmission with the designated bandwidth to the source node as a proxy, and which makes a confirmation reply for guaranteeing the transmission with the designated bandwidth to the intermediate nodes on the communication route toward the destination node;

However, Perkins et al. (AODV) discloses the intermediate node makes a reply (Perkins et al. (AODV); 9.3.1. Processing Route Requests; page 13, line 19) for permitting transmission with the designated bandwidth (Perkins et al. (AODV); page 35, 2nd paragraph) to the source node as a proxy (Perkins et al. (AODV); 2. Overview; page 2, 2nd paragraph, lines 9-16), and which makes a confirmation reply Perkins et al. (AODV); 9.3.1. Processing Route Requests; page 13, line 1-4) for guaranteeing the

Art Unit: 4183

transmission with the designated bandwidth (Perkins et al. (AODV); page 35, 2nd paragraph) to the intermediate nodes on the communication route toward the destination node (Perkins et al. (AODV); 2. Overview; page 2, 2nd paragraph, lines 2-7) for the purpose of allowing mobile nodes to obtain routes quickly for new destinations and do not require nodes to maintain routes to destinations that are not in active communication. (Perkins et al.(AODV); 1.Introduction; page 1, lines 3-6).

Therefore, It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to combine teachings of Perkins et al. (AODV) and Perkins et al. (QoS for AODV) in order to allow mobile nodes to obtain routes quickly for new destinations and do not require nodes to maintain routes to destinations that are not in active communication. (Perkins et al.(AODV); 1.Introduction; page 1, lines 3-6).

Conclusion

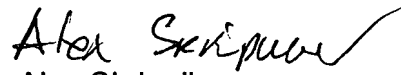
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Perkins et al. (QoS for AODV) "Quality of Service for Ad hoc On-Demand Distance Vector routing", Perkins et al. (AODV) "Ad Hoc On-Demand Distance Vector (AODV) Routing", Lin C.R. "On-demand QoS routing in multihop mobile networks" and Lin et al. "QoS Routing in Ad Hoc Wireless Networks" references are also cited to show related art.

Art Unit: 4183

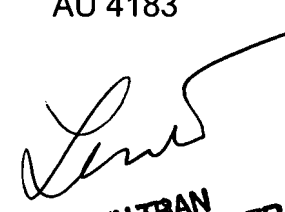
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Skripnikov whose telephone number is (571)270-1958. The examiner can normally be reached on Monday to Thursday 7:30 a.m. to 5 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571)272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Examiner Alex Skripnikov
AU 4183

October 14, 2007


LEN TRAN
PRIMARY EXAMINER
Supervising
10/17/07